ABSTRACT OF THE DISCLOSURE

A radiation image storage panel comprises a stimulable phosphor layer capable of emitting light when being exposed to stimulating rays, which cause the stimulable phosphor layer to emit the light in proportion to an amount of energy stored on the stimulable phosphor layer during exposure of the stimulable phosphor layer to radiation. The stimulable phosphor layer is adapted for radiating out the emitted light with an intensity distribution that is compressed in a direction, which is normal to a surface of the stimulable phosphor layer, and into an oblate distribution, which is flatter than a cos θ distribution.